AMENDMENTS TO THE CLAIMS

1. (Original) An apparatus for recording time information of digital data streams received through an interface, the apparatus comprising:

a clock generator to generate a clock;

a counter to count the clock generated by the clock generator such that a smaller-unit time field is reset when the count value of the smaller-unit time field reaches a predetermined value and a bigger-unit time field is incremented by 1 when the smaller-unit time field is reset; and

a data formatter to create data object units by adding the count values of the bigger-unit time field and the smaller-unit time field of the counter at the time each unit of a digital data stream is received, to the corresponding unit of the digital data stream.

2. (Original) The apparatus of claim 1, wherein the data object units pertain to video data.

3. (Original) The apparatus of claim 1, further comprising:

a recording part to record the data object units to a recording medium.

4. (Original) The apparatus of claim 3, wherein the recording medium is a DVD.

5. (Original) The apparatus of claim 1, wherein the predetermined value amounts to a time period during which the bigger-unit time field specified by the interface is incremented by 1.

6. (Original) An apparatus for recording time information of digital data streams received through an interface, the apparatus comprising:

means for generating a clock;

means for counting the generated clock such that a smaller-unit time field is reset when the count value of the smaller-unit time field reaches a predetermined value and a bigger-unit time field is incremented by 1 when the smaller-unit time field is reset; and

means for creating data object units by adding the count values of the bigger-unit time field and the smaller-unit time field at the time each unit of a digital data stream is received, to the corresponding unit of the digital data stream.

7. (Original) The apparatus of claim 6, wherein the data object units pertain to video data.

8. (Original) The apparatus of claim 6, further comprising: means for recording the data object units to a recording medium.

9. (Original) The apparatus of claim 8, wherein the recording medium is a DVD.

10. (Original) The apparatus of claim 6, wherein the predetermined value amounts to a time period during which the bigger-unit time field specified by the interface is incremented by 1.

11. (Original) A method for recording time information of digital data streams received through an interface, the method comprising the steps of:

generating a clock;

counting the generated clock such that a smaller-unit time field is reset when the count value of the smaller-unit time field reaches a predetermined value and a bigger-unit time field is incremented by 1 when the smaller-unit time field is reset; and

creating data object units by adding the count values of the bigger-unit time field and the smaller-unit time field at the time each unit of a digital data stream is received, to the corresponding unit of the digital data stream.

12. (Original) The method of claim 11, wherein the data object units pertain to video data.

13. (Original) The method of claim 11, further comprising:

recording the data object units to a recording medium.

14. (Original) The method of claim 13, wherein the recording medium is a DVD.

15. (Original) The method of claim 11, wherein the predetermined value amounts to a time period during which the bigger-unit time field specified by the interface is incremented by 1.

16. (Original) An apparatus for recording time information of digital data streams received through an interface, the apparatus comprising:

a clock generator to generate a clock;

a counter to count the clock generated by the clock generator such that a smaller-unit time field is reset when the count value of the smaller-unit time field reaches a predetermined value and a bigger-unit time field is incremented by 1 when the smaller-unit time field is reset; and

a data formatter to create data object units by adding the count values of the bigger-unit time field and the smaller-unit time field of the counter at the time each unit of a digital data stream is received, to the corresponding unit of the digital data stream,

wherein the data object units carry management data.

17. (Original) The apparatus of claim 16, wherein the management data include time information for managing the digital data stream.

18. (Original) The apparatus of claim 17, wherein a format of the time information coincides with a format of time information of user data in the digital data stream.

19. (Original) The apparatus of claim 16, further comprising:

a recording part to record the data object units to a recording medium.

20. (Original) The apparatus of claim 19, wherein the recording medium is a DVD.

21. (Original) An apparatus for recording time information of digital data streams received through an interface, the apparatus comprising:

means for generating a clock;

means for counting the generated clock such that a smaller-unit time field is reset when the count value of the smaller-unit time field reaches a predetermined value and a bigger-unit time field is incremented by 1 when the smaller-unit time field is reset; and

means for creating data object units by adding the count values of the bigger-unit time field and the smaller-unit time field at the time each unit of a digital data stream is received, to the corresponding unit of the digital data stream,

wherein the data object units carry management data.

22. (Original) The apparatus of claim 21, wherein the management data include time information for managing the digital data stream.

23. (Original) The apparatus of claim 22, wherein a format of the time information coincides with a format of time information of user data in the digital data stream.

24. (Original) The apparatus of claim 21, further comprising:

means for recording the data object units to a recording medium.

25. (Original) The apparatus of claim 24, wherein the recording medium is a DVD.

26. (Original) A method for recording time information of digital data streams received through an interface, the method comprising the steps of:

generating a clock;

counting the generated clock such that a smaller-unit time field is reset when the count value of the smaller-unit time field reaches a predetermined value and a bigger-unit time field is incremented by 1 when the smaller-unit time field is reset; and

creating data object units by adding the count values of the bigger-unit time field and the smaller-unit time field of the counter at the time each unit of a digital data stream is received, to the corresponding unit of the digital data stream,

wherein the data object units carry management data.

27. (Original) The method of claim 26, wherein the management data include time information for managing the digital data stream.

28. (Original) The method of claim 27, wherein a format of the time information coincides with a format of time information of user data in the digital data stream.

29. (Original) The method of claim 26, further comprising:

recording the data object units to a recording medium.

30. (Original) The method of claim 29, wherein the recording medium is a DVD.

31. (Currently Amended) A recording medium for recording time information of digital data streams received through an interface, the recording medium comprising:

a recording layer; and

data object units recorded on the recording layer,

wherein the data object units are created by adding count values of a bigger-unit time field and a smaller-unit time field at the time each unit of a digital data stream is received, to the corresponding unit of the digital data stream,

wherein the count values are generated, such that the smaller-unit time field is reset when the count value of the smaller-unit time field reaches a predetermined value, and the bigger-unit time field is incremented by 1 when the smaller-unit time field is reset, and wherein the data object units carry management data.

32. (Original) The recording medium of claim 31, wherein the management data include time information for managing the digital data stream.

33. (Original) The recording medium of claim 32, wherein a format of the time information coincides with a format of time information of user data in the digital data stream.

34. (Original) The recording medium of claim 31, wherein the recording medium is a DVD.

35. (New) An apparatus for recording time information of digital data, the apparatus comprising:

a clock generator to generate a clock;

a counter to count the clock generated by the clock generator in order to create a smaller-unit time field and a bigger-unit time field, wherein the smaller-unit time field is created by 27MHz unit and the bigger-unit time field is created by 90KHz unit; and

a data formatter to create a data object unit being presentation data, by adding a corresponding unit of the digital data to management data including the smaller-unit time field and the bigger-unit time field.

36. (New) The apparatus of claim 35, wherein the data object unit pertains to video data.

37. (New) The apparatus of claim 35, wherein the bigger-unit time field comprises a plurality of bytes, wherein at least one byte includes a portion of bigger-unit time field and a portion of smaller-unit time field.

38. (New) The apparatus of claim 35, wherein the corresponding unit comprises one or more packets.

39. (New) The apparatus of claim 35, further comprising:

a recording unit to record the data object unit to a recording medium, wherein the management data is followed by the corresponding unit.

40. (New) The apparatus of claim 35, wherein the data formatter creates data object including one or more data object units.

41. (New) The apparatus of claim 40, further comprising:

a recording unit to record the data object to a recording medium, wherein the management data is followed by the corresponding unit.

42. (New) A method of recording time information of digital data, the method comprising:

(a) generating a clock;

(b) counting the clock in order to create a smaller-unit time field and a bigger-unit time field, wherein the smaller-unit time field is created by 27MHz unit and the bigger-unit time field is created by 90KHz unit; and

(c) creating a data object unit being presentation data, by adding a corresponding unit of the digital data to management data including the smaller-unit time field and the bigger-unit time field.

43. (New) The method of claim 42, wherein the data object unit pertains to video data.

44. (New) The method of claim 42, wherein the bigger-unit time field comprises a plurality of bytes, wherein at least one byte includes a portion of bigger-unit time field and a portion of smaller-unit time field.

45. (New) The method of claim 42, wherein the corresponding unit comprises one or more packets.

46. (New) The method of claim 42, further comprising:

(d) recording the data object unit to a recording medium, wherein the management data is followed by the corresponding unit.

47. (New) The method of claim 42, wherein the step (c) further creates data object including one or more data object units.

48. (New) The method of claim 47, further comprising:

(d) recording the data object to a recording medium, wherein the management data is followed by the corresponding unit.